REMARKS

Claims 1-12 and 14-15 are pending in the application. Claims 1-7 and 9-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cool Edit User's Manual in view of the admitted prior art. Claim 12 was rejected under 35 U.S.C. 112, second paragraph as being indefinite.

Applicant gratefully acknowledges the Examiner's cooperation and courtesy in setting up and conducting a telephonic interview with the undersigned on Dec. 21, 2005. Claim 1 and the Cool Edit prior art were discussed. The examiner acknowledged some limits to the scope of the prior art teachings and agreed to reconsider the rejection. Applicant agreed to amend claim 12 to overcome the section 112 rejections.

As to claim 1, applicant respectfully submits that the combination of the cited prior art (Cool Edit) and the admitted prior art (Werback: US 5,359,665) fail to teach or suggest all elements of claim 1. Cool edit is a non-real time software tool, in particular a digital sound editing tool for Windows, that enables a user to apply special effects to audio files. (See page 1, user manual). In other words, Cool Edit largely teaches that software implemented on a general purpose computer can simulate the effects of hardware. Thus, when the user is instructed as to the limitations of the invention as recited in claim 1, including how to separate the input signal into respective high-pass filtered signals and low frequency signals, how to specifically modify the amplitudes of the low frequency signals, and how to combine the modified low frequency signals, then and only then can the software provide the user with a convenient way of simulating the audio effects of the invention.

In further detail, Cool Edit fails to teach or suggest the limitations of the invention as recited in claim 1, for example, in modifying the left and right low frequency signals such that signals with amplitude a where $0 < a < a1$ are amplified by a first constant value C1, signals with amplitude $a1 \leq a < a2$ are amplified proportional to 1/a, signals with amplitude $a = a2$ are unchanged, signals with amplitude $a2 < a < a3$ are attenuated proportional to 1/a, and signals with amplitude $a = a3$ are attenuated by a second constant value C2. Although a user can implement the invention in a non-real

time manner using the Cool Edit software, there is no predefined function in Cool Edit that specifies the transfer function corresponding to the above described modifications. Other than convenience, it offers little or nothing to this analysis over the situation presented by an engineer supplied with a kit including hardware in the form of high pass filters, band pass filters, and signal attenuation electrical circuits and assigning the engineer the task of connecting and selecting the various hardware components to create an electrical circuit that provides the desired audio effects.

Turning then to the admitted prior art, applicant submits that Werbach (US 5,359,665) even in combination with Cool Edit, also fails to teach or suggest the limitations as recited in claim 1. Werbach segregates an input audio signal into a low frequency band, subjects it to a variable gain amplifier, and recombines it with the original signal. Werbach uses a closed loop feedback signal to limit the peak level of the signal.(See FIG. 1). Werbach doesn't specifically identify the transfer function of the variable gain amplifier 3, only indicating "the gain of the variable gain amplifier is varied in accord with the level of the bass components" (col. 1, lines 55-60). In greater detail as illustrated in FIG. 2, Werbach uses an operational transconductance amplifier 11 to function as the variable gain amplifier (col. 2, lines 35-40.) Its current amplification is controlled by the voltage generated at the output of the Darlington transistor 20. The precise transfer function achieved by the variable gain amplifier 3, as controlled by the voltage at he Darlington pair 20 would depend on the values selected for the various components. Without engaging in a further detailed analysis of the performance of the Werbach circuit, one can conclude that it doesn't teach the transfer function recited in claim 1 for at least the reason that the control voltage isn't at a first constant value C1 for signals of amplitude a being between 0 and a1.

As to claim 12, applicant submits that any rejections are rendered moot in light o the amendment wherein the "substantially as shown" language has been removed. Applicant respectfully requests that the rejection be withdrawn.

Claim 16-18 have been added. Support for claims 16-17 may be found throughout the specification, including FIGS. 1a, 1b, 1d and 2. Independent claim 16 is submitted to

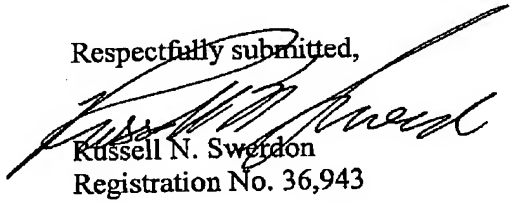
be allowable for at least the same reasons as discussed above with respect to claim 1.

In view of the foregoing discussion, the rejections of claim 1 over the art of record are believed overcome. Claims 2-12 and 14-15 depend from claim 1 and are submitted to be allowable for at least their dependencies from an allowable claim. Claims 17-18 are likewise submitted to be allowable owing to their dependencies from claim 16. Moreover, the dependent claims recite additional limitations, and are therefore allowable for these reasons as well. Further discussion of these distinctions is believed unnecessary in light of the distinctions discussed above relative to the independent claims.

Conclusion

Accordingly, it is submitted that all issues in the Office Action have been addressed, and withdrawal of the rejections is respectfully requested. Applicants believe that this application is in condition for allowance, and respectfully request a prompt passage to issuance. If the Examiner believes that a telephone conference would expedite the prosecution of this application, he is invited to contact the Applicants' undersigned attorney at the telephone number set out below.

Respectfully submitted,



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